AMERON
INTERNATIONAL
Performance Coatings & Finishes

AMERLOCK® 2

The Next Generation of Amerlock 400

AMERON INTERNATIONAL • GLOBAL PRODUCT LINE

Fast drying surface tolerant VOC compliant epoxy *Amerlock Series*

Product Data/ Application Instructions

- Fast dry, dry to touch in 2 hours at 70°F (21°C)
- Recoat in 3 hours at 70°F (21°C)
- Low temperature cure down to 0°F (-18°C)
- Exceptional corrosion protection in industrial and marine corrosive environments
- Surface tolerant, excellent adhesion to tight rust and prepared damp surfaces
- Self priming topcoat over most existing coatings
- Can be overcoated with a wide range of topcoats
- Meets all existing VOC regulations including SCAQMD Rule 1113 requirements for 2002

Amerlock 2's low solvent level meets VOC requirements, reduces the chances for film pinholing and solvent entrapment at the substrate-coating interface, often a major cause of coating failure with conventional epoxies and lower solids systems.

Amerlock 2 is available in a variety of colors, and therefore does not require a topcoat. For extended weatherability or special uses, a topcoat may be desired.

Typical Uses

Amerlock 2 is designed for use in a variety of areas, even those where surface preparation is impossible. As a maintenance coating, Amerlock 2 protects steel structures in industrial facilities, bridges, tank exteriors, marine weathering, offshore, oil tanks, piping, roofs, water towers and other exposures. Amerlock 2 has good chemical resistance to splash/spillage, fumes and immersion in neutral, fresh and salt water (see resistance table). Contact your Ameron representative for specific information.

Qualifications (Amerlock 2)

1. USDA – Incidental food contact
2. NSF Standard 61 - For use in drinking water. See current NSF listing at www.nsf.org for restrictions and approved colors.
3. FDA 21 CFR 175.300 extraction test for direct food contact

Physical Data

Finish	Semigloss	
Color	Standard, Rapid Response, custom colors and aluminum	
Components	2	
Curing mechanism	Solvent release and chemical reaction between components	
Volume solids (ASTM D2697 modified)		
Amerlock 2	83% ± 3%	
Amerlock 2AL	85% ± 3%	
Dry film thickness (per coat)	4-8 mils (100-200 microns)	
Coats	1 or 2	
Theoretical coverage	ft^2/gal	m^2/L
1mil (25 microns)		
Amerlock 2	1331	32.6
Amerlock 2AL	1363	33.1
5 mils (125 microns)		
Amerlock 2	266	6.5
Amerlock 2AL	273	6.7
VOC	lb/gal	g/L
Amerlock 2 mixed*	1.5	180
mixed/thinned (½ pt/gal)*	1.8	216
Amerlock 2AL mixed**	1.0	123
mixed/thinned (½ pt/gal)**	2.0	234

* EPA method 24
** Calculated

Temperature resistance,	wet		dry	
	°F	°C	°F	°C
continuous	100	38	200	93
intermittent	100	38	350	177

Flash point (SETA)	°F	°C
Amerlock 2/400 resin*	131	55
Amerlock 2 cure	114	29
Amerlock 2AL resin	110	43
Amerlock 2AL cure	122	50
Amercoat® 8	20	-7
Amercoat 65	78	25
Amercoat 12	2	-17

** Amerlock 2 resin and Amerlock 400 resin are identical, and are packaged under a common label as Amerlock 2/400 resin. Amerlock 2 cure and Amerlock 400 cure are different, and are labeled individually.*

Typical Properties (Amerlock 2)

Physical

Abrasion resistance (ASTM D4060)	
1 kg load/1000 cycles	weight loss
CS-17 wheel	102 mg
Impact resistance (ASTM D2794)	
Direct	24 in · lb
Reverse	6 in · lb
Moisture vapor transmission (ASTM F1249)	4.0 gm/m²/day
Adhesion (ASTM D4541)	1200 psi

Performance

Salt spray (ASTM B117) 3500 hours	
Face corrosion/blistering	None
Humidity (ASTM D2247) 1500 hours	
Face corrosion/blistering	None
Prohesion (ASTM G85-A5) 3000 hours	
Face corrosion/blistering	None

Chemical Resistance Guide

Environment	Immersion		Splash and Spillage		Fumes and Weather	
	2	2AL	2	2AL	2	2AL
Acidic	*	*	F	F	G	G
Alkaline	*	*	E	G	E	E
Solvents	*	*	G	G	E	E
Salt water	E	*	E	E	E	E
Water	E	*	E	E	E	E

F-Fair G-Good E-Excellent

**Contact your Ameron representative.*

This table is only a guide to show typical resistances of Amerlock 2 and Amerlock 2AL. For specific recommendations, contact your Ameron representative for your particular corrosion protection needs.

Systems using Amerlock 2 or Amerlock 2AL

1st coat	2nd Coat	3rd coat
Amerlock 2	None	None
Amerlock 2	Amerlock 2	None
Amerlock 2	450HS	None
Amerlock 2	Amershield	None
Amerlock 2	PSX 1001	None
Dimetcote® 9, 9FT or 9HS	Amerlock 2	None
Dimetcote 9, 9FT or 9HS	Amerlock 2	450HS

Note: For color contrast when two coats of Amerlock 2 Aluminum are used, Amerlock 2 Aluminum Red can be used as the first coat.

Surface Preparation

Coating performance is, in general, proportional to the degree of surface preparation. Abrasive blasting is usually the most effective and economical method. When this is impossible or impractical, Amerlock 2 can be applied over mechanically cleaned surfaces. All surfaces must be clean, dry and free of all contaminants, including salt deposits.

Amerlock 2 may be used over most types of properly prepared and tightly adhering coatings. A test patch is recommended for use over existing coatings.

Steel – Remove all loose rust, dirt, moisture, grease or other contaminants from surface. Power-tool clean SSPC-SP3 or hand-tool clean SSPC-SP2. For more severe environments, dry abrasive blast SSPC-SP7. Water jetting is also acceptable. For immersion service – dry abrasive blast SSPC-SP10.

Aluminum – Remove oil, grease or soap film with neutral detergent or emulsion cleaner, treat with Alodine® 1200, Alumiprep® or equivalent or blast lightly with fine abrasive.

Galvanizing – Remove oil or soap film with detergent or emulsion cleaner, then use zinc treatment such as Galvaprep® or equivalent or blast lightly with fine abrasive.

Concrete – Acid etching (ASTM D4260) or abrasive blast (ASTM D4259) new concrete cured a minimum of 14 days.

Application Data

Applied over	Steel, concrete, aluminum, galvanizing
Surface preparation	
Steel	SSPC-SP2, 3, 6, 7, 10 or 11
Concrete	ASTM D4259 or 4260
Aluminum	Alodine®, Alumiprep® or light abrasive blast
Galvanizing	Galvaprep® or light abrasive blast
Method	Airless or conventional spray. Brush or roller may require additional coats.
Mixing ratio (by volume)	1 part resin to 1 part cure
Environmental conditions	Air and surface temperature 20° to 120°F (-6° to 49°C)

Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures, surface must be free of ice.

Drying time (ASTM D1640) (hours)

	°F/°C					
	120/49	90/32	70/21	50/10	32/0	20/-6
touch						
Amerlock 2	0.5	1	2	8	24	48
Amerlock 2AL	0.5	2	3.5	11	30	—
through						
Amerlock 2	1	2	4.5	13	38	96
Amerlock 2AL	1.5	3.5	7	17	48	—

Thinner	Amercoat 8 or 65
Equipment cleaner	Thinner or Amercoat 12

	°F/°C		
Recoat/Topcoat time minimum (hours)	90/32	70/21	50/10
	1	3	6

Recoat/Topcoat time @ 70°F (21°C)

System	Maximum time
Amerlock 2/Amerlock 2	1 month
Amerlock 2/Amershield or 450HS	1 week
Amerlock 2/Amercoat 5405	1 day
Amerlock 2AL/Amerlock 2AL	2 weeks

Note: If maximum time is exceeded, roughen surface. For topcoats (finish coats) not listed, see Product Data sheet for specific topcoat time limitations.

Pot life (hours)

	°F/°C			
	90/32	70/21	50/10	32/0
Amerlock 2				
unthinned	0.75	1	2	4
½ pint thinner	1	1.5	2.5	5
Amerlock 2AL				
unthinned	0.5	0.75	1.5	—
½ pint thinner	1	1.25	2	—

Pot life is the period of time after mixing that a five-gallon unit of material is sprayable when thinned as recommended. Mixture may appear fluid beyond this time, but spraying and film build characteristics may be impaired.

Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

Airless spray – Standard equipment having a 45:1 or higher pump ratio, with a 0.017- to 0.021-inch fluid tip.

Conventional spray – Industrial equipment, such as DeVilbiss MBC or JGA or Binks 18 or 62 spray gun. A moisture and oil trap in the main air supply line, a pressure material pot with mechanical agitator and separate regulators of air and fluid pressure are recommended.

Power mixer – Jiffy Mixer powered by an air or explosion-proof electric motor.

Brush or roller – Additional coats may be required to attain proper thickness.

Application Procedure

1. Flush all equipment with thinner or Amercoat® 12 before use.
2. Stir resin and cure using an explosion-proof power mixer to disperse pigments.
3. Add cure to resin. Mix thoroughly until uniformly blended to a workable consistency.
4. Do not mix more material than can be used within the expected pot life.
5. For optimum application, material should be from 50° to 90°F (10° to 32°C). Above 122°F (50°C), sagging may occur.
6. Use only Ameron recommended thinners. Above 70°F (29°C) use Amercoat 8, at lower temperatures use Amercoat 65. A small amount of thinner greatly reduces viscosity; excessive thinning will cause running or sagging. Thin cautiously as follows:

	Amerlock 2	Amerlock 2AL
Airless – up to	½ pt/gal	1pt/gal
Conventional – up to	½ pt/gal	1pt/gal

   Below 50°F additional thinning may be needed and multiple coats required to achieve specified thickness.
7. To minimize orange peel appearance, adjust conventional spray equipment to obtain adequate atomization at lowest air pressure.
8. Apply a wet coat in even, parallel passes with 50 percent overlap to avoid holidays, bare areas and pinholes. If required, cross spray at right angles.
9. When applying Amerlock 2 directly over inorganic zincs or zinc rich primers, a mist coat/full coat technique may be required to minimize bubbling. This will depend on the age of the Dimetcote®, surface roughness and conditions during curing.
10. Ventilate confined areas with clean air during application and while curing the final coat. Prevent moisture condensation on the surface between coats.
11. Repair damaged areas by brush or spray.
12. Clean equipment with thinner or Amercoat 12 immediately after use.

Note: Do not apply Amerlock 2AL on water-damp surfaces.

Shipping Data

Packaging unit	2 gal	5 gal
cure	1-gal can	2.5-gal can
resin	1-gal can	2.5-gal can
Shipping weight (approx)	**lbs**	**kg**
2-gal unit		
Amerlock 2 cure	12.8	5.8
Amerlock 2/400 resin	13.7	6.2
Amerlock 2AL resin	11.0	5.0
Amerlock 2AL cure	13.3	15.9
5-gal unit		
Amerlock 2 cure	33.0	15.0
Amerlock 2/400 resin	35.0	15.9
Amerlock 2AL resin	28.3	12.8
Amerlock 2AL cure	34.5	15.6

Shelf life when stored indoors at 40° to 100°F (4° to 38°C)
resin and cure 1 year from shipment date.

Numerical values are subject to normal manufacturing tolerances, color and testing variances. Allow for application losses and surface irregularities.

This mixed product is photochemically reactive as defined by the South Coast Air Quality Management District's Rule 102 or equivalent regulations.

Safety Precautions

Read each component's material safety data sheet before use. Mixed material has hazards of each component. Safety precautions must be strictly followed during storage, handling and use.

CAUTION – Improper use and handling of this product can be hazardous to health and cause fire or explosion.

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep solvent vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interiors and buildings.

This product is to be used by those knowledgeable about proper application methods. Ameron makes no recommendation about the types of safety measures that may need to be adopted because these depend on application and space, of which Ameron is unaware and over which it has no control.

If you do not fully understand the warnings and instructions or if you cannot strictly comply with them, do not use the product.

Note: Consult Code of Federal Regulations Title 29, Labor, parts 1910 and1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

This product is for industrial use only. Not for residential use.

Limitation of Liability

Ameron's liability on any claim of any kind, includin aclaims based upon Ameron's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. **In no event shall Ameron be liable for consequential or incidental damages.**

Warranty

Ameron warrants its products to be free from defects in material and workmanship. Ameron's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Ameron's option, to either replacement of products not conforming to this Warranty or credit to Buyer's account in the invoiced amount of the nonconforming products. Any claim under this Warranty must be made by Buyer to Ameron in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Ameron of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

Ameron makes no other warranties concerning the product. No other warranties, whether expressed, implied, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Ameron be liable for consequential or incidental damages.

Any recommendation or suggestion relating to use of the products made by Ameron, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

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